

Another interesting shell is a specimen of *Voluta deshayesi* from Clipperton Island. The vessel which brought it was a small coaster which was sent direct to the uninhabited Clipperton Island from San Diego for a load of guano, and returned to San Diego without touching at any other point. So Miss Cooke warrantably concludes that the shell could not have been obtained elsewhere; and, as it is a rather dull and battered specimen, was not likely to have been carried there, especially as there is no trade between Clipperton Island and the Australian seas.

Miss Cooke has *Fusinus luteopictus* Dall, from the Gulf of California, and *Mitra lens* from Scammon's Lagoon at the western elbow of the Lower Californian peninsula.

Several of the collectors have found *Pteria sterna* on the San Diego breakwater, and *Melina chemnitziana* at the Coronado islands, southwest of San Diego.

Mrs. Stephens has received *Rangia lecontei* Conrad from the locality known as 'Flowing Wells' in the Colorado desert.

Dr. Baker's collection contains (from 40 fathoms off San Clemente island) *Lucina edentuloides* Verrill, *Calliostoma variegatum* Carpenter, and a *Natica* not yet identified.

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#### A NOTE ON ISAPIS OBTUSA CPR.

BY A. W. HANHAM.

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Among some local species submitted to the Rev. G. W. Taylor, of the Marine Biological Station at Departure Bay, Vancouver Island, in June of 1909, was an *Isapis* which he did not recognize at the time, but all the shells were dead specimens, having been taken under stones, at low tides, inhabited by hermit crabs. Even these had not been abundant, and the small "lot" was the catch of several seasons. The species proves to be *Isapis obtusa* Cpr., and it was kindly named for me this fall by Dr. Paul Bartsch, of the United States National Museum.

It is mentioned in Keep's "West American Shells," as is also *Isapis fenestratus* Cpr., but no particular locality is given for either. The latter species is included in the Rev. G. W. Taylor's "Preliminary Catalogue of the Marine Mollusca of the Pacific Coast of Canada," but only as a great rarity. *Isapis obtusa* Cpr. is not mentioned.

There is little about *I. obtusa* to recommend it, certainly nothing graceful or beautiful, though full-grown specimens are a fair size.

The object of this note is to record the capture this summer, by accident or by luck, of living shells. As Mr. Taylor did not know it, I judged it might be a good species, and so decided that it was worth a special search this season. My earliest "hunts" in May and June, at low tides, netted me nothing except a few more dead specimens, although I carefully searched the pools at lowest tides, the exposed rocks with their covering of sea-weeds, the haunts of hermit crabs under rocks and stones, sea kelp washed up on shore, and even the inside of any large dead shell. I had about decided that nothing but dredging would bring it to light.

Towards the end of July I joined my family in camp, under canvas, at Maple Bay, for a three weeks' holiday. This Bay is 4 or 5 miles from our home on Quamichan Lake, and is situated on the east, or inside, coast of Vancouver Island. While the bay is rather shut in, it is by no means a small one, but most of the shore is rocky, with little beach. The beach proper is but little more than a quarter of a mile in length, and the greater part is a fine shale. At one end at low tide it is quite muddy, but the other has some nice patches of clean sand, with boulders liberally distributed. It was here that I had taken the dead shells, and it was here also that I went "clam digging" to replenish our larder and add some variety to camp fare. One day after turning the clams out of the pail I found quite a sediment of sand, and a rather casual examination brought to my notice several small univalves, which on closer inspection I recognized as the shell I was hunting for, and better than that, living examples, though rather immature.

The next morning I followed the tide out to the spot where I had dug the clams, but even then I failed to find any more until I started to dig more clams, and even then it was not right away that I found them. Perseverance, however, brought reward, for presently I found one on a clam, and before very long I was taking them in ones and twos, or even little groups, in this way. Perhaps not more than one clam in twenty had the *Isapis* on them, though some spots proved rich and others barren, and this I found true when digging for them on other occasions. The *Isapis* was found only on living shells, and they were liable to turn up on those dug from extreme low tide to not very far below high-water mark, and on shells that were buried from two to six inches or more.

The clam is *Tapes staminea* Conrad, and while this was the most abundant species, other bivalves, as *Cardium nuttalli*, Conrad, and some species of *Macoma* were present in fair numbers. It was however only on the *Tapes* that any *Isapis* were found. On these they adhered quite closely, so that the digging, and even a rinse did not appear to dislodge them.

While it was seldom that I found more than two or three *Isapis* on one shell, and usually only one, in several cases, I took a *Tapes* with a whole lot of small fry massed together, perhaps as many as 20 fine shells, and others had what looked like the spawn. Their position on the *Tapes* was always close to the lips, and I think nearly always in the depression close to the beaks. Besides this species I took more rarely on the *Tapes*, a species of *Odostomia* (*Ivalea*); it also occurred on the *Cardium*. Dr. Bartsch says of it, "too young to permit of positive specific identification." This *Ivalea* may have been more abundant than I found it, being of such small size, and as I discovered very easily rubbed off. It appears to me not unlikely that *Isapis fenestrata*, may have similar habits, and that therefore, where it has been taken dead and rarely, it may prove quite as plentiful as *I. obtusa* has in this case. I should say that in our Northern waters, *obtusa* must be very local, or it would surely have been turned up "dead" long before this, by the collectors, who have done considerable collecting and dredging on our British Columbia coasts.

Included in this sending to Dr. Bartsch was *Odostomia* (*Amaura*) *talpa* Dall & Bartsch, which appears to be new to our B. C. Lists, and which species I gathered in fair numbers in this same spot, at extreme low tide, all dead and containing hermit crabs.

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THE ANATOMICAL STRUCTURE OF CERTAIN EXOTIC NAIADES COMPARED WITH THAT OF THE NORTH AMERICAN FORMS.

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BY DR. A. E. ORTMANN.

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(Continued from p. 108.)

Gills long and narrow, the inner the wider. Edge of inner gill with the usual longitudinal furrow, which is missing on the outer gill. Outer gill gradually narrowing anteriorly. its anterior end situated at the highest point of the mantle-attachment line. Inner